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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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09/900,087

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Ahmad Chini

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12/13/2005

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EXAMINER

KIM, KEVIN

ART UNIT

PAPER NUMBER

2638

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------------------------|------------------------------|--|
| Office Action Summary | Application No. <u>09/900,087</u> | Applicant(s) CHINI ET AL. | |
| | Examiner Kevin Y. Kim | Art Unit 2638 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,14-21 and 24-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-7,21 and 24-26 is/are allowed.
- 6) ☒ Claim(s) 14-18,27-34 is/are rejected.
- 7) ☒ Claim(s) 19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The indicated allowability of claims 14-20 is withdrawn in view of the newly discovered reference(s) to Cimini, Jr et al (US 6,891,792). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 14-16, 27-34 is rejected under 35 U.S.C. 102(e) as being anticipated by Cimini, Jr. et al.

Claims 14, 27-29, 30 and 34.

Cimini, Jr. et al discloses an OFDM system (see Fig.1) for generating modulated and filtered orthogonal carrier signals, comprising:

an inverse fast Fourier transform (IFFT) to generate N modulated orthogonal carriers from an N sample data frame,

an M time cyclic extension (CYCLIC EXTENSION) to increase the frequency resolution of respective N modulated orthogonal carrier signals by a factor of M; and

MN point time-domain filter (WINDOWING) to modify the frequency response of the modulated orthogonal carrier signals to generate the modulated and filtered orthogonal carrier signals. See also Fig.2 and col. 2, line 64 – col.3, line 3 and col. 3. lines 37-48.

Claims 15,16, 31 and 32.

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Cimini, Jr. et al discloses a modulator (QPSK MODULATOR) to generate the N sample data frame by modulating an N sample baseband data frame.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claim 17, 18 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cimini, Jr. et al. in view of Crawford (US 6,438,367).

Cimini, Jr. et al discloses all the subject matter claimed except for the modulator being an amplitude shift keying type or quadrature amplitude modulator. First, Cimini, Jr. et al suggests that the QPSK type is not critical and merely used as an exemplary modulator. See col. 3, lines 61-64. Crawford teaches different types of modulator such as QAM where a particular selection is a matter of design choice depending on the error and/or data rate. See col. 13, line 50 – col.14, line 27. Thus, it would have been obvious to one skilled in the art at the time the invention was made to use a ASK or QAM in place of QPSK as a modulating scheme in the Cimini, Jr. et al's OFDM system since which modulation to use is a matter of design choice and the present disclosure fails to disclose any criticality such as sated benefits for using ASK or QAM.

Allowable Subject Matter

5. Claims 1-7,21,24-26 are allowed.

6. Claims 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KEVIN KIM
PATENT EXAMINER

K. Y. Kim